

P8331US(PCT)

Claims

1. Lowering device (10) of a support structure (38) consisting of at least one plate (17), wherein a locking mechanism (16) is formed on a first side of the plate (17), which can be moved into two positions, and wherein a support structure (38) can be applied to a second side of the plate (17), which is lifted relative to the stationary plate (17) in a first position of the locking mechanism (16), and is lowered relative to the stationary plate (17) in a second position of the locking mechanism (16) in response to the force of gravity, wherein the support structure (38) engages the locking mechanism (16) via bolts (12, 13) and the bolts (12, 13) can be displaced relative to the plate (17) from the first position into the second position and vice versa, characterized in that the locking mechanism (16) is formed from a first and a second latch part (19, 20) which each surround at least parts of the first free end region of a bolt (12, 13), wherein the bolts (12, 13) penetrate through elongated holes (15) in the plate (17) to permit displacement of the bolts (12, 13) relative to the plate (17), wherein the bolts (12, 13) can be fixed to the support structure (38) in the region of their second free ends.
2. Lowering device according to claim 1, characterized in that the second latch part (20) is rotatably disposed about the bolt (13) which it surrounds, and comprises a first and a second support surface (31, 36) via which the second latch part (20) is supported on a projection (18) of the plate (17) in correspondence with the respective location, wherein the respective support surfaces (31, 36)

have different separations from the axis (35) which is formed by the bolt (13).

3. Lowering device according to claim 2, characterized in that the first latch part (19) comprises a free end (33) which partially covers an opening (28) of the plate (17) and surrounds the bolt (12) in such a manner that, upon pivoting the first latch part (19) away from the opening (28), the second latch part (20) automatically pivots into the second position under the action of the force exerted by the support structure on the locking mechanism (16).
4. Lowering device according to claims 1 through 3, characterized in that the plate (17) is mounted to one end of an elongated housing, the other end of the housing comprising a bracket (21) which has an elongated hole (14) for receiving a bolt (11) which can be stationarily fixed to the support structure (38), and is overlapped by a frame (24) which is rigidly connected to both the bracket (21) and the plate (17).
5. Lowering device according to claim 4, characterized in that receptacles (25, 26) for a support are provided on the housing, via which the housing can be fixed to the support.
6. Lowering device according to claim 4 or 5, characterized in that the housing can be mounted to the side of a truss girder (38) of a floor table.